

Claim Amendments

Please amend the claims as follows:

Cancel claims 1-68 without prejudice or admission, and add new claims 69 – 117

as follows:

1. (Canceled herewith)
2. (Canceled herewith)
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C₁
27. (Canceled herewith)

b₁
28. (Canceled herewith)

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C₁

50. (Canceled herewith)

B

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68. (Canceled herewith)

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69. (New) An antibody that is capable of binding human CTLA4, which antibody comprises a heavy chain variable region having a contiguous amino acid sequence encoded by a human V_H 3-30.3 or V_H 3-33 gene, said human V_H 3-30.3 or V_H 3-33 gene having at least one mutation shown in Figure 6.

70. (New) An antibody according to claim 69, wherein said antibody binds human CTLA4 with a binding affinity of about 10⁹ M⁻¹ or greater.

C1

71. (New) An antibody according to claim 69, wherein said antibody does not bind CTLA4 from mouse.

h

72. (New) An antibody according to claim 69, wherein said antibody binds CTLA4 from cynomolgus monkey.

73. (New) An antibody according to claim 69, which antibody reduces binding of human CTLA4 to B7-1 by at least 50% when the concentration of antibody is at least about 1 µg/mL.

74. (New) An antibody according to claim 69, which antibody reduces binding of human CTLA4 to B7-2 by at least 50% when the concentration of antibody is at least about 1 µg/mL.

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D1

75. (New) An antibody according to claim 69 wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:27-28, 32-34 and 37-39.

76. (New) An antibody according to claim 69, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:17, 19 and 23.

C1

77. (New) An antibody according to claim 69, which antibody further comprises a light chain variable region having a contiguous amino acid sequence encoded by a human V_K A-27 or V_K L-15 gene, said human V_K A-27 or V_K L-15 gene having at least one mutation shown in Figure 5.

78. (New) An antibody according to claim 77, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:24-26, 29-31 and 35-36.

79. (New) An antibody according to claim 77, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:7, 9 and 13.

5.3
D1

80. (New) An antibody that is capable of binding human CTLA4, which antibody comprises a light chain variable region having a contiguous amino acid sequence encoded by a human V_K A-27 or V_K L-15 gene, said human V_K A-27 or V_K L-15 gene having at least one mutation shown in Figure 5.

81. (New) An antibody according to claim 80, wherein said antibody binds human CTLA4 with a binding affinity of about 10⁹ M⁻¹ or greater.

C1

82. (New) An antibody according to claim 80, wherein said antibody does not bind CTLA4 from mouse.

B1

83. (New) An antibody according to claim 80, wherein said antibody binds CTLA4 from cynomolgus monkey.

84. (New) An antibody according to claim 80, which antibody reduces binding of human CTLA4 to B7-1 by at least 50% when the concentration of antibody is at least about 1 µg/mL.

85. (New) An antibody according to claim 80, which antibody reduces binding of human CTLA4 to B7-2 by at least 50% when the concentration of antibody is at least about 1 µg/mL.

Sub
D

86. (New) An antibody according to claim 80, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:24-26, 29-31 and 35-36.

87. (New) An antibody according to claim 80, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:7, 9 and 13.

C₁
b₁

88. (New) An antibody according to claim 80, which antibody further comprises a heavy chain variable region having a contiguous amino acid sequence encoded by a human V_H 3-30.3 or V_H 3-33 gene, said human V_H 3-30.3 or V_H 3-33 gene having at least one mutation shown in Figure 6.

89. (New) An antibody according to claim 88, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:27-28, 32-34 and 37-39.

90. (New) An antibody according to claim 88, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:17, 19 and 23.

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D1

91. (New) A human antibody that binds human CTLA4 with a binding affinity of about 10^9 M^{-1} or greater.

92. (New) An antibody according to claim 91 that does not bind CTLA4 from mouse.

93. (New) An antibody according to claim 91, wherein said antibody binds CTLA4 from cynomolgus monkey.

C1
b1

94. (New) An antibody according to claim 91, which antibody reduces binding of human CTLA4 to B7-1 by at least 50% when the concentration of antibody is at least about $1 \mu\text{g/mL}$.

95. (New) An antibody according to claim 91, which antibody reduces binding of human CTLA4 to B7-1 by at least 50% when the concentration of antibody is at least about $1 \mu\text{g/mL}$.

96. (New) An antibody according to claim 91, which antibody comprises a heavy chain variable region having a contiguous amino acid sequence encoded by a human V_H 3-30.3 or V_H 3-33 gene, said human V_H 3-30.3 or V_H 3-33 gene having at least one mutation shown in Figure 6.

97. (New) An antibody according to claim 96, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:27-28, 32-34 and 37-39.

98. (New) An antibody according to claim 96, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:17, 19 and 23.

99. (New) An antibody according to claim 96, which antibody further comprises a light chain variable region having a contiguous amino acid sequence encoded by a human V_K A-27 or V_K L-15 gene, said human V_K A-27 or V_K L-15 gene having at least one mutation shown in Figure 5.

100. (New) An antibody according to claim 99, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:24-26, 29-31 and 35-36.

101. (New) An antibody according to claim 99, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:7, 9 and 13.

102. (New) An antibody according to claim 91, which antibody comprises a light chain variable region having a contiguous amino acid sequence encoded by a human V_K A-27 or V_K L-15 gene, said human V_K A-27 or V_K L-15 gene having at least one mutation shown in Figure 5.

103. (New) An antibody according to claim 102, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:24-26, 29-31 and 35-36.

C1
b1
104. (New) An antibody according to claim 102, wherein the contiguous amino acid sequence encoded by the human V_K A-27 or V_K L-15 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:7, 9 and 13.

105. (New) An antibody according to claim 102, which antibody further comprises a heavy chain variable region having a contiguous amino acid sequence encoded by a human V_H 3-30.3 or V_H 3-33 gene, said human V_H 3-30.3 or V_H 3-33 gene having at least one mutation shown in Figure 6.

106. (New) An antibody according to claim 105, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises at least one CDR amino acid sequence selected from the group consisting of SEQ ID NOS:27-28, 32-34 and 37-39.

107. (New) An antibody according to claim 105, wherein the contiguous amino acid sequence encoded by the human V_H 3-30.3 or V_H 3-33 gene comprises an amino acid sequence selected from the group consisting of SEQ ID NOS:17, 19 and 23.

108. (New) A human antibody comprising:

- (a) a heavy chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:16; and
- (b) a light chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:6,

wherein said stringent conditions comprise hybridization in buffer comprising 5 x SSC and 0.1% SDS at 65 °C with a wash of 0.2 x SSC and 0.1% SDS at 65 °C, and wherein said antibody is capable of binding to CTLA4.

109. (New) A human antibody comprising:

- (a) a heavy chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:18; and
- (b) a light chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:8,

wherein said stringent conditions comprise hybridization in buffer comprising 5 x SSC and 0.1% SDS at 65 °C with a wash of 0.2 x SSC and 0.1% SDS at 65 °C, and wherein said antibody is capable of binding to CTLA4.

110. (New) A human antibody comprising:

- C1
- (a) a heavy chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:22; and
 - (b) a light chain variable amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complement of SEQ ID NO:12,

wherein said stringent conditions comprise hybridization in buffer comprising 5 x SSC and 0.1% SDS at 65 °C with a wash of 0.2 x SSC and 0.1% SDS at 65 °C, and wherein said antibody is capable of binding to CTLA4.

111. (New) A human antibody comprising:

- D
- (a) a heavy chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:17; and
 - (b) a light chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:7,

wherein said antibody is capable of binding to CTLA4.

112. (New) A human antibody comprising:

- (a) a heavy chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:19; and
- (b) a light chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:9,

wherein said antibody is capable of binding to CTLA4.

113. (New) A human antibody comprising:

- (a) a heavy chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:23; and
- (b) a light chain variable amino acid sequence having at least 80% amino acid residue identity with the amino acid sequence set forth in SEQ ID NO:13,

wherein said antibody is capable of binding to CTLA4.

114. (New) An antibody selected from the group consisting of 10D1, 4B6 and 11E2.

SVB
Dx

115. (New) An antibody comprising:

- (a) a heavy chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NOS:19; and
- (b) a light chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NO:9.

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concl'd

116. (New) An antibody comprising:

- (a) a heavy chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NOS:17; and
- (b) a light chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NO:7.

117. (New) An antibody comprising:

- (a) a heavy chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NOS:23; and
- (b) a light chain variable amino acid sequence having the amino acid sequence set forth in SEQ ID NO:13.